

SC-186 WG5 Meeting: 23 April, 2003



# UAT-WP-15-10A

## Current MASPS Issues

(Flight Plan ID, A/G Determination, TCAS Codes)

J. Stuart Searight, WG6  
FAA WJH Technical Center  
[Stuart.Searight@faa.gov](mailto:Stuart.Searight@faa.gov)

# Flight Plan ID (History)

- Need to facilitate ATC correlation of filed flight plans to ADS-B participants.
- Initially raised by Alaska ATC during final review and comment process of UAT MOPS (after DO-242A publication) in June 2002.
- Problem documented in MASPS Issue Paper 66  
<[http://adsb.tc.faa.gov/WG6\\_Meetings/Issue\\_Papers.htm](http://adsb.tc.faa.gov/WG6_Meetings/Issue_Papers.htm)>
- Conducted breakout session at joint SC186/WG51 plenary in Brussels in October 2002.

# Flight Plan ID: UAT MOPS (1)

- UAT MOPS (DO-282) added “Call Sign ID” Bit (CSID) to Mode Status element.
- Required CSID be set to ONE for initial DO-282.
- While not defined in DO-282, CSID specifies what data is contained in “Call Sign” field of Mode Status Element.
- CSID provides a hook for inclusion of 4096 codes within ADS-B for Capstone II equipment.

# Flight Plan ID: UAT MOPS (2)

- Capstone II equipment will set CSID to ZERO when transmitting 4096 codes within “Call Sign” field.
- Tradeoff for incorporating 4096 codes is the 50% reduction in the broadcast rate of “Call Sign”.
- This is a deviation from both DO-242A & DO-282.
- While intuitively safe for low density airspace such as Alaska, what is impact if implemented throughout the CONUS or other high-density airspace?

# Flight Plan ID: 1090 MOPS (1)

- DO-260A incorporated 4096 code into the Type 23 “TEST” Message, Subtype 7.
- Required means to enable/disable transmission of message due to European concerns.
- Defined Lat/Lon box covering N. America & Hawaii, within which message can be broadcast.

## Flight Plan ID: 1090 MOPS (2)

- When enabled, the Message is broadcast at rate of once per 12 seconds.
- Low broadcast rate should not be of concern since it is for air-ground communications.
- Solution does not reduce broadcast rate of other Mode Status data.

# Flight Plan ID: Next Steps

- Analyze operational & safety impact of reduced Call Sign broadcast rate for UAT in high-density airspace.
- Work with ATC/NATCA towards long-term solution (4096, 24-bit address, Call Sign, etc.)
- Determine impact on ADS-B MASPS and proper resolution for IP-66.

# On-Ground/Airborne Determination

- On-Ground/Airborne determination criteria added to DO-242A.
- DO-242A contains error. (Altitude criteria should be 50 feet.)
- Criteria based on original 1090 MOPS.
- MASPS and both link MOPS contain verification of on-ground criteria to override “stuck” WOW switch.
- OG/A criteria and OG verification criteria is inconsistent.
- Does UAT need to consider WOW switch criteria? (Why not just use Emitter Category and DO-282 Table 2-17 for all cases?)
- Should MASPS not require use of WOW indication when present?
- Documented in Issue Paper 71.



# ACAS CC & OM Codes

- DO-242A includes Capability Code indicating if aircraft is equipped with ACAS unit operating in RA Mode.
- DO-242A includes Operational Mode Code indicating if an RA is currently being issued.
- Both of these flags included for interoperability between ACAS and ACM equipped aircraft.
- ACM must assume ACAS present and RA being issued for “unknown” conditions. (ACM will only issue horizontal maneuvers to resolve conflicts against TCAS equipped aircraft.)
- ACM subgroup of WG-1 considers MASPS definition of flags appropriate.
- An ADS-B link should be able to define flags more precisely. (MASPS are minimum requirements.)
- Documented in Issue Paper 72

# WG6 Status

- Maintaining database of Issue Papers.
  - Always accepting new papers!!
- No future meetings currently scheduled.
- Will likely reconvene after acceptance of ASA MASPS to assess scope and urgency of possible revision B effort.
- Hope that revision B is a joint RTCA/ICAO document.
- If not joint, might limit scope to harmonization with ASA and a selected few “urgent” issues.